

MIL-G-45500/5

30 July 1974

SUPERSEDING

(See Section 6)

## MILITARY SPECIFICATION SHEET

GUN, AUTOMATIC, 20MM:

THREE-BARREL, HIGH RATE, M197 and M197E1

This specification is approved for use by all Departments and Agencies of the Department of Defense.

The complete requirements for procuring the gun described herein shall consist of this document and the issue in effect of specification MIL-G-45500.

### 1. SCOPE

1.1 This specification sheet covers the requirements for one type of three-barrel, electrically fired, 20 millimeter (mm) automatic gun. The gun utilizes an ammunition feeder, recoil adapters and is either electric or hydraulic power driven.

### 2. APPLICABLE DOCUMENTS

#### SPECIFICATIONS

##### Military

MIL-G-45500 - Gun, Automatic, 20MM: General Specification For

#### DRAWINGS

##### U.S. Army Weapons Command

F11691450 - Gun, Automatic, 20MM: M197E1

F11838579 - Gun, Automatic, 20MM: M197

#### PUBLICATIONS

##### U.S. Army Weapons Command

IEL11691450 - Index of Inspection Equipment List

IEL838579 - Index of Inspection Equipment List

P11691450 - Packaging Data Sheet for Gun, Automatic  
20MM: M197E1

P11838579 - Packaging Data Sheet for Gun, Automatic  
20MM: M197

FSC 1005

### 3. Requirements.

3.1 Material, construction and design. Guns and parts shall conform to the material construction and design requirements specified on Drawing F11838579 (M197 and FF11691450 (M197E1).

#### 3.1.1 Functioning.

TABLE I

#### Performance Requirements

<u>Gun Torque</u> <u>(Max.)</u>	<u>Acceleration</u> <u>Time</u>	<u>Cyclic Rate</u> <u>of Fire</u>	<u>Stopping Time</u> <u>(Max.)</u>
400 inch-pounds at 1,350 rounds per minute.	0.3 seconds (from start of gun rotation to 1,350 rounds per minute).	1,350 to 1,650 rounds per minute. (1500 rpm $\pm$ 10%).	0.3 seconds (from minimum cyclic rate of fire to complete stop).

3.1.2 Targeting and accuracy. The gun shall place 80 percent of the rounds fired in an eight (8) inch diameter circle at a range of 1,000 inches at any single cyclic rate from 400 to 1,500 rounds per minute for accuracy, and the center of the 80 percent group shall be within six (6) inches elevation, three (3) inches depression, and three (3) inches left and five (5) inches right azimuth of the true boresight point targeting.

3.1.3 Endurance. Guns shall fire 15,000 rounds for endurance. A series is 500 rounds using five (5) bursts of 100 rounds each.

TABLE II

#### Schedule of Replacement Parts (Not applicable)

### 4. QUALITY ASSURANCE PROVISIONS

#### 4.1 Quality conformance inspection.

4.1.1 Inspection equipment. The measuring and and testing equipment will be as specified on the Index of Inspection EquipmentEquipment List IEL11838579 (M197) and IEL 11691450 (M197E1).

## 4.2 Test methods.

4.2.1 Function firing test procedure. The gun shall be function fired at a cyclic rate of fire of 1350 to 1650 rpm using a feeder, power supply with control equipment and calibrated drive specified in MIL-G-45500. To calculate the gun torque at minimum cyclic rate of fire, the steady state rate of fire, and the mean differential pressure across the drive shall be calculated using the last 50 percent of the burst excluding stopping time. The calculated rate of fire shall be 1350 to 1650 rpm.

4.2.2 Interchangeability test. The following groups of non-mating parts shall be utilized in the interchangeability test:

### GROUPS OF NON-MATING PARTS

#### GROUP I

Barrel (7790801)  
 block, locking (7269955)  
 Gear, rotor (11838553)  
 Housing subassembly, matched  
 (11691402)  
 Insulator, pin, cam firing  
 (11010160)  
 Pin; firing (7268303)  
 Stop, contact assembly (7268730)  
 Track, rotor center (1183855)  
 Track, rotor front (RH 11838549)  
 Track, rotor front (LH 11838550)  
 Track, rotor removable (11838547)

#### GROUP II

Bar, guide (11691401)  
 Cam, unlocking, front (11698265)  
 Clamp, mid-barrel, quick dis-  
 connect (11838584)  
 Insulator assembly, firing pin  
 (11010159)  
 Pin, cam, firing (7268304)  
 Plate, end (11838504) (M197)  
 Plate, end (11691451) (M197E1)  
 Shaft assembly, bolt (7790708)  
 Spacer, removable track (7268715)  
 Spring, helical compression (11698237)

#### GROUP III

Body, breech bolt (110158)  
 Cam, lock (7790681)  
 Cam, unlocking, rear (11698264)  
 Clamp assembly, muzzle (11838576)  
 Clamp, coupling (7269760)  
 Contact assembly, firing (11010186)  
 Pin assembly, indexing (7790768)  
 Rotor assembly, (remaining parts) (11838574)

## 5. PREPARATION FOR DELIVERY

MIL-G-45500/5

Packaging Data Sheet P11838579 (M197) and Packaging Data Sheet P11691450 (M197E1) applies as applicable.

## 6. NOTES

Supersession data. This specification sheet includes the requirements of U.S. Army Weapons Command Purchase Description USAWECOM PD-36 dated 13 July 1972 for the M197, 20MM Automatic Gun.

### Custodians:

Army - WC  
Navy - OS  
Air Force - 84

### Preparing activity:

Army - WC

### Project number:

1005-0525-5

### Review activities:

Navy - OS  
Air Force - 84

### User activity:

Navy - MC

## STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

OMB Approval  
No. 22-R255

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## DOCUMENT IDENTIFIER AND TITLE

MIL-G-45500/5; Gun, Automatic, 20MM: Three-Barrel, High Rate, M197 and M197E1

NAME OF ORGANIZATION AND ADDRESS

CONTRACT NUMBER

MATERIAL PROCURED UNDER A

☐ DIRECT GOVERNMENT CONTRACT ☐ SUBCONTRACT

## 1. HAS ANY PART OF THE DOCUMENT CREATED PROBLEMS OR REQUIRED INTERPRETATION IN PROCUREMENT USE?

A. GIVE PARAGRAPH NUMBER AND WORDING.

B. RECOMMENDATIONS FOR CORRECTING THE DEFICIENCIES

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MIL-G-45500/5  
AMENDMENT 3  
3 OCTOBER 1988  
SUPERSEDING  
MIL-G-45500/5  
AMENDMENT 2  
5 OCTOBER 1977

MILITARY SPECIFICATION SHEET

GUN, AUTOMATIC, 20MM:  
THREE-BAWL, HIGH RATE, M197 and M197E1

This amendment forms a part of Military Specification Sheet MIL-G-45500/5, dated 30 July 1974 and is approved for use by all Departments and Agencies of the Department of Defense.

PAGE 2

Para 3.1.3, Line 1 -

Delete "15,000" and substitute "25,000"

PAGE 3

Para 4.2.1, Line 2 - After "Feeder" add ", Recoil Adapters"

Para 4.2.2, Group I -

Delete "11010160" and substitute "11691415"

Delete "7268303" and substitute "11691418"

Group II

Delete "11010159" and substitute "11691420"

Delete "7268304" and substitute "11691417"

Delete "11698237" and substitute "11691419"

Group III

Delete "110158" and substitute "11691423"

Para 4.2.2, Group I -

Delete "7266955" and substitute "11691480"

Add "Bolt, Machine (11838575)"

MIL-G-45500/5  
AMENDMENT 3

Delete "Insulator Pin, Cam, Firing" and substitute  
"Insulator, Vertical"

Delete "Stop, Contact Assembly (7268730)" and substitute  
"Plug (11691414)"

Group II

Delete "Insulator Assembly, Firing Pin" and substitute  
"Insulator Assembly, Horizontal"

Add "Nut, Self-Locking, Plate (11838651)"

Delete "Pin, Cam Firing" and substitute "Pin, Cam"

Delete "Plate, End (11838504)" and substitute "Plate,  
Assembly, End (12007566)"

Delete "7790708" and substitute "11691421"

Group III

Delete "7790681" and substitute "7269760"

Delete "Clamp Assembly, Muzzle (11838576)" and substitute  
"Plate, Clamp, Muzzle (11838640)"

The margins of this amendment are marked with an asterisk or vertical lines to indicate where changes (additions, modification, corrections, deletions) from the previous amendment were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations and relationship to the last previous amendment.

Custodians:

Army- WC  
Navy-OS  
Air Force - 84

Preparing activity:  
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(Project 1005-A726-05)

Review activities:

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